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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Deck

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EXAMINER

DANG, HUNG Q

ART UNIT

PAPER NUMBER

2612

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,934	Applicant(s) DECK ET AL.	
	Examiner HUNG Q. DANG	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47, 48, 51-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47, 48, 51-75 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Primary Examiner, Art Unit 2612 DETAILED ACTION

1. This communication is in response to the Applicant's Remarks dated 1/14/2010. The Examiner agrees that "on August 19, 2009, a Non-Final Office Action was issued in this application. The Non-Final Office Action was mistakenly characterized in the PAIR by the USPTO as "a Final Office Action." On November 19, 2009, Applicants have filed an Amendment in response to this Non-Final Office Action. The USPTO has mischaracterized this Amendment in the PAIR as "an Amendment under Rule 116 in response to the Final Office Action". Based on the above mischaracterization, the Advisory Action was issued on December 23, 2009. In view of the above, Applicants respectfully submit that the issuance of the Advisory Action was improper and request that a Final Office Action be issued and the Advisory Action be withdrawn". The Applicant's arguments dated 11/9/2009 are addressed below.

Response to Arguments

2. Applicant's arguments filed 11/9/2009 have been fully considered but they are not persuasive.

Issues raised by the Applicant:

a) The Applicant's argument on pages 7-8 of the Remarks regarding the 112 first paragraph rejections of claims 47 and 48.

b) On pages 9-10 of the Remarks, the Applicant asserts that "*The Examiner correctly acknowledges that Michalski fails to disclose or suggest "an A/D converter digitizing the*

Art Unit: 2612

measured signal" and "a processor configured to only assume activating the measured signal receiver, the A/D converter, and the transceiver device in such a way that, that the measured signal is digitized and subsequently transmitted without signal processing after the A/D conversion, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value," as recited in claim 47. (See 8/19/09 Office Action, p. 4).

With respect to the rejection of the claims, the Office Action does not provide a citation to prior art in support of, an alleged teaching or suggestion of the above-recited features of claim 47. Rather, the Office Action appears to be taking implicit Official Notice that these features are allegedly obvious. Although the Examiner does not explicitly indicate that Official Notice is taken to render the above-cited limitations obvious, the Examiner nevertheless fails to provide prior art references that teach these limitations. The Examiner merely states that these limitations would be obvious to one of ordinary skill in the art. Applicants respectfully submit that the implicit application of Official Notice in the outstanding Office Action is improper".

c) On pages 9-10 of the Remarks, the Applicant also asserts that "Furthermore, the Examiner states that it would be obvious for the "time delay value" to be, alternatively, converted into a measured value locally and subsequently transmitted to a remotely located monitor. (See *Id.*, p. 4). However, claim 47 clearly recites that "the measured signal is digitized and subsequently transmitted without signal processing after the A/D conversion, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value." Thus, it is clear that the measured signal is remotely converted into a measured value.

It seems the Examiner bases his contentions on the fact that the measured signal is a "time delay value." However, this term was defined by the Examiner and is not in the present application. Furthermore, as explained above with regard to the § 112, first paragraph, rejection, the measured signal is not a "time delay value" but rather, an analog signal. Applicants

*respectfully submit that the Examiner uses **improper hindsight reconstruction** to render the claimed invention obvious. If the Examiner continues to believe that the above-recited features are well known in the art, Applicants respectfully request that the Examiner provide a reference or references in the next Office Action allegedly offering evidence that this is the case. However, if the Examiner cannot provide sufficient references to support his contentions, then it is respectfully requested that the Examiner indicate that claim 47 and its dependent claims 48, 51, 53-56, 58, 60- 71, and 75 are allowable”.*

The Examiner’s Position:

a) The Examiner disagrees with the Applicant. The Examiner maintains that one of ordinary skill in the art is expected to possess certain common knowledge in the field of endeavor. Based on the claimed limitations and the support provided in the specification and the drawing, the Examiner maintains that, without a time-value measurement of the reflected signal at the moment the reflected signal is received at the receiver, there is no adequately-supported way to determine the fill level. In this case, an analog signal is transmitted and is reflected off the surface of the fill level. Thus, said signal would be reflected and received at a receiver as an out-of-phase signal comparing to the original signal. Neither the specification nor the drawing adequately provides enough support as to how such received out-of-phase signal can be used to determine the fill level. A telephone interview is encouraged to clarify this matter.

b) The Examiner disagrees with the Applicant. In light of the explanation made in part (a) above, the Examiner maintains the same ground of rejection.

Art Unit: 2612

Even, assuming the received reflected signal is an analog signal, the Examiner asserts that analog signal and digital signal are merely two conventional way of data representation. One of the **KSR decisions: "Applying a known technique to a known device (method or product) ready for improvement to yield predictable results"**. Thus, having either such analog signal or digital signal processed locally or remotely is simply a choice in design to achieve simplicity in hardware design at the local or remote unit. Either approach would yield predictable result.

c) See explanation made in part (b) above.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 47-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 47 and 48, it is not clearly understood as to why there is a need for having the claimed **A/D converter for digitizing the measured**

Art Unit: 2612

signal. As best understood by the Examiner, the “measured signal” is numerical time value corresponding to the time delay of the reflected transmitted signal.

Said numerical time value is already in digital format. Therefore, it is not clearly understood as to why there is a need for having the claimed A/D converter.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 47, 48, 51, 53-56, 58, 60-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michalski et al. U.S. Pub. 2004/0074295.

Regarding claim 47, Michalski et al. teaches a fill level sensor unit (abstract), comprising a measured signal receiver (figure 1 and paragraph [0026]; unit 6 is the receiver) registering a measured signal; a transceiver device (figure 1, unit 4) for transmitting data to an environmental device (figure 1, unit 14); a processor (figure 1, unit 4 is a control/evaluation circuit which is inherently equipped with a processor) is configured so that the measured signal is digitized and transmitted to the environmental device; wherein the sensor is a fill level sensor; and wherein the measured signal receiver transmits and receives one of

Art Unit: 2612

a radar signal, an ultrasound signal and a guided microwave signal (paragraph [0012]).

However, Michalski et al. does not specifically disclose that **said processor is configured to only assume activating the measured signal receiver, the A/D converter, and the transceiver device** in such a way **that the measured signal is digitized and subsequently transmitted without signal processing after the A/D conversion**, via the transceiver device, to the environmental device, the environmental device being coupled to an analysis unit which converts the measured signal into a measured value.

The claimed invention concerns recording a "time delay value" starting when the measurement signal is transmitted, reflected off the surface of the fill level and received at the measured signal receiver. Said "time delay value" is then transmitted to a remotely located analysis unit to be converted into a "measured value". One of ordinary skill in the art would also recognize that such "time delay value" can also be alternatively locally converted into a "measured value" at the "measured signal receiver" and the converted "measured value" would then be transmitted to a remotely located monitor. Clearly, if the "time delay value" is designed to be converted into a "measured value" at a remote location, then NO signal processing of said "time delay value" would be locally required, and vice versa.

Clearly, if said "time delay value" is designed to be converted at a remote unit, the hardware requirement of said sensor unit would be preferably kept to the minimal, enough to perform the data transmission; in this case, the minimal

Art Unit: 2612

hardware requirements would clearly be the measured signal receiver and the transceiver device. Regarding the claimed A/D converter, see the above 112 1st paragraph rejection. Even, for some reason, an A/D converter is required prior to data transmission in this case, one of ordinary skill in the art would recognize that if the "time delayed value" were originally, somehow, in analog format; then the minimal hardware would simply further include an A/D converter for converting said data from analog format into digital format prior to transmission.

Regarding the claimed **wireless** data transmission, the Examiner gives Official Notice that wireless transmission has been commonly equipped in many telemetry systems. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alternatively provide wireless transmission to the system taught by Michalski et al. to wireless perform data communication.

Regarding claim 48, the input/output components claimed in claim 48 are implicitly suggested based on the rejection of claim 47 stated above.

Regarding claim 51, Michalski et al. also teaches that measured signal is a propagation time signal (paragraph [0014]).

Regarding claims 54, 55 and 50, the environmental device taught by Michalski et al. is also coupled to a process control system (see claim 1 of Michalski et al.; unit 14 is a process control system).

The Examiner gives Official Notice that wire/wireless coupling/connecting two devices have been commonly known and equipped in many communication

Art Unit: 2612

systems. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide wire or wireless coupling or connection between the environmental device and the process control system disclosed by Michalski et al.

Note: Since the Applicant has not challenged the above given Official Notice, the given Official Notice has now become the Applicant's prior art admission.

See MPEP Par: 2144.03©

if applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate.

Regarding claims 58 and 62, as mentioned in the rejection of claim 47, Michalski et al. teaches a sensor unit being wirelessly coupled to an environmental device having a control. Even though, Michalski et al. does not specifically mention that said environmental device includes a **display**, however, the Examiner gives Official Notice that a display has been commonly provided in many monitor devices for displaying desired data to the user. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a display to the sensor system of Michalski et al. for displaying desired data. Even though, Michalski et al. only disclose one environmental device including a control and a display unit, however, it would have been obvious to one of ordinary skill in the art to further provide another environmental device so that the sensed data can be transmitted to another location/user for data processing.

Regarding claim 64, as stated in the rejection of claim 62, if the sensed parameter/status data is desired to be transmitted to another environmental device, then, obviously, said sensed parameter/status can also be transmitted to said further environmental device.

Regarding claim 65, even though Michalski et al. does not specifically teach that the analysis unit, a control and display unit are integrated into the environmental device, however, the Examiner gives Official Notice that such electronic components have been commonly integrated together in many electronic devices for the convenience of the operator. Also, the use of a one-piece construction instead of multiple separable pieces structure would be merely a matter of obvious engineering choice in design (see MPEP 2144.04 In re Larson design engineering choice and MPEP 2144.04 changes in size/proportion).

Regarding claim 66, even though Michalski et al. does not specifically mention an interface for a wire-bound data transmission, however, the Examiner gives Official Notice that interfaces for use with wire transmission have been commonly known and equipped in many electronic devices. Therefore, by conventionality, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an interface for wire-bound data transmission to the sensor unit disclosed by Michalski et al.

Regarding claims 53, 56 and 61, the Examiner gives Official Notice that bidirectional communication between any two devices has been conventionally equipped in many control/communication systems for data transmission or

Art Unit: 2612

control operations. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide bidirectional communications between any of the two devices disclosed by Michalski et al.

Note: Since the Applicant has not challenged the above given Official Notice, the given Official Notice has now become the Applicant's prior art admission.

See MPEP Par: 2144.03©

if applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate. If the traverse was inadequate, the examiner should include an explanation as to why it was inadequate.

Regarding claim 63, see the rejection of claim 52.

Regarding claims 67 and 69, see the rejection of claim 47. Even though, Michalski et al. does not specifically disclose a **plurality** of sensor units, however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a plurality of sensor units (similar as the sensor unit claimed in claim 47) to the system disclosed Michalski et al. so that a plurality of different parameters can be sensed and transmitted to a remote location for processing.

Regarding claim 68, see the rejection of claim 58.

Regarding claims 70, 72 and 74, (isn't every control task is assumed by some sort of processor or controller?) Michalski et al. also teaches a processor (figure 1, unit 4) which inherently and exclusively assume control task.

Regarding the claimed "plurality of sensor units"; clearly, if the fill levels in a

Art Unit: 2612

plurality of containers are to be measured, then a corresponding plurality of sensor units would be employed to perform such task.

Regarding claim 71, Michalski et al. inherently teaches a memory arrangement coupled to the processor and storing parameters. (processors are inherently equipped with memories for data manipulation). Even though, Michalski et al. does not specifically teach calibration data for controlling a measurement sequence, however, one of ordinary skill in the art would recognize that calibration data has been commonly applied in many measurement systems in increase accuracy. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further provide calibration data to the sensor unit of Michalski et al. in order to increase accuracy in data measurements.

Regarding claim 73, see the rejection of claim 71. Regarding the claimed “plurality of sensor units”; clearly, if the fill levels in a plurality of containers are to be measured, then a corresponding plurality of sensor units would be employed to perform such task.

Regarding claim 75, see the rejection of claim 71.

7. Claims 52, 57 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michalski et al. U.S. Pub. 2004/0074295 in view of Soliman U.S. Pub 2003/0174067.

Regarding claim 52, Michalski et al. teaches the sensor unit of claim 47. However, Michalski et al. does not specifically teach the wireless transmission of the data between the sensor unit and the environmental device using WLAN.

Soliman, in the same field of endeavor, discloses a wireless telemetry network, wherein a WLAN is employed between device-device transmission.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide WLAN for wireless transmission between the sensor unit and the environmental device disclosed by Michalski et al., as evidenced by Soliman, so that sensed data can be wirelessly transmitted to said environmental device.

Regarding claims 57 and 59, Michalski et al. teaches the sensor unit of claim 58. However, Michalski et al. does not teach said environmental device being a mobile device.

Soliman, in the same field of endeavor, teaches a wireless environmental telemetry network, wherein the environmental device is a mobile device (Figure 1, unit 140) so that said mobile device can be carried around.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the environmental device disclosed by Michalski et al. to be a mobile device, as evidenced by Soliman, so that said environmental device can be carried around by the operator.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. DANG whose telephone number is (571)272-3069. The examiner can normally be reached on 9:30AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Zimmerman can be reached on (571) 272-3059. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hung Q Dang/

Examiner, Art Unit 2612

/Albert K Wong/

Primary Examiner, Art Unit 2612